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VARIOUS.

Tula Silver.

The product known as Tula silver, from the name of the town in Russia in which it is prepared, is now, it is stated, made on a large scale by Zacher and Co., Berlin, who have succeeded in discovering the secret of the composition. Tula silver, a sort of niello, is prepared by them in a mass consisting of 9 parts silver, 1 copper, 1 lead and 1 bismuth. The latter metal has been wanting in most attempts to make Tula silver. The metals in the above-given proportions are melted together and saturated with sulphur, the mixture giving a metal possessing the peculiar metallic blue tint often called steel blue.

Plating Iron with Platinum.

Plating iron with platinum has been adopted, and the process patented, by M. Dode, of Paris. The iron first receives a coating composed of lead and copper, and then the platinum is applied. The first coating is prepared by mixing 22 parts of borate of lead and $4^1/_2$ parts of cupric oxide in oil of turpentine, and is applied by means of a fine brush. The platinum coating is prepared by converting 10 parts of platinum into chloride mixed with 5 parts of ether, the latter being permitted to evaporate in the air. The residuum is mixed with a viscid combination of 20 parts borate of lead, 11 parts red lead and some oil of lavender, and 50 parts of amylalcohol are added to the whole. Into this mixture the object to be platinised is dipped, allowed to dry in the air, and then heated to a moderate temperature.

Muralis.

The walls of a room in Berners-street, Oxford-street, have been hung with various specimens of a new linoleum product called by its inventor, Mr. Frederick Walton, "Muralis", and which would seem to be a very useful material. It is a mixture of oxidised linseed oil and fibre, and on this, ornamentation in relief is stamped by machinery with the greatest clearness and sharpness of diversified outline. The use of colour in addition is optional, and the patterns may, if desired, be tooled after the first stamping. The effect produced is, according to the will of the designer, like that of carved wood, of embossed leather, of terra-cotta or plaster ornamentation; or, better still, the work may be allowed to assume a character of its own as a subdued and graceful style of ornamentation. Its capacity for resisting blows and abrasions is remarkable. Pieces can, indeed, be cut off from it, with the knife or chisel, and its toughness and freedom from liability to splinter render it peculiarly suitable for any amount of elaboration and improvement by artists after it has once been stamped. But a blow or a cut produces, on the elastic surface, no lasting impression. If it is struck with the sharp end of a hammerhead, a slight indentation will at first be produced; but in half an hour the elastic substance fills up the gap. A piece of "Muralis" has just been taken out of the water after three months' immersion, and is as perfect and sound as when first put in. It would supply a waterproof shield to wood, iron, or other building materials, and afford lasting and beautiful ornament to the structure. For the interior decoration of houses, its warm and comfortable surface makes it peculiarly applicable. As regards price, a handsome dado, 2 ft. high, is sold at the price of 3 s. a yard. The pieces for walls are usually about 20 in. wide, and sold at 2 s. 8 d. a yard. The designs produced on the material depend, of course, on the taste of the manufacturer; those at present exhibited, we are glad to be able to say, are very satisfactory and appropriate. *The Builder.*

Waste Products.

Those inventions deserve special honour, and generally receive special and substantial recognition, which develop new industries or utilise waste products. It is saving that makes the individual rich and the community prosperous.

The glycerine industry, which has attained colossal proportions, is a notable illustration of a great manufacture based entirely upon the saving of a product that until lately was a waste product of the soap-boiler. Even more important in magnitude, we may estimate the industries connected with the manufacture of the aniline colours and artificial alisarine from the refuse coal-tar that was formerly the curse and the nuisance of the gasworks. The waste blood of the abattoires is sought after by the sugar refiner and the manufacturer of albumen. Old boots and shoes and leather waste are turned to good account by the chemical manufacturer in producing the cyanides, ferro and ferrid cyanides, so indispensable in colour-printing and photography. Sawdust, mixed with blood or other agglutinative substance, and compressed by powerful pressure, is moulded and turned into door-knobs, buttons, and a thousand decorative and useful articles; or, as is the case, too, with the spent tan of the tanneries and the spent bark of the dyeworks, it is utilised for fuel. Oystershells, of which our barbarous ancestors made the shell mounds that delight the soul of the archæologist, are burned to lime. The waste of the linseed-oil manufacture is eagerly sought for as food for cattle. The waste ashes of wood fires is leached for potash. River mud is mingled with chalk burnt and ground to make the famous Portland cement, and the ruthless hand of utilitarianism has not even spared the brickbat, that from time immemorial has served only to crack the heads of opposing factions, but grinds it up to make cement with lime. The finest glue size is made of the waste of parchment skins. The waste gases of the blast-furnace are now employed to heat the blast, to generate the steam that drives the engine that makes the blast, to hoist ores, drive machineey, &c., and even the slag that had for years served to decorate the hillsides, is cast into building and paving blocks, granulated for building sand, or ground for cement, mixed with appropriate chemicals and made into the common grades of glass, or blown by a steam jet into the finest filaments to form the curious mineral wool used largely as a heat-insulating protector upon steam pipes, boilers, roofs, &c. So, too, the enormous hills of anthracite coal-dust that have for years borne silent testimony to the crudity of our methods of coal-mining, bid fair to disappear in time beneath the boilers supplied with ingenious dust-burning devices, or in lumps of artificial fuel. Even the anthracite itself but a few years ago was a black stone, unappreciated and useless. The waste heat of the lime-kiln is made to generate steam and warm immense public buildings, and the "exhaust" of the steam-engine must do duty in heating the feed-water. Instances like the above could be multiplied almost indefinitely to demonstrate how invention has enabled us, with the most beneficial results, to reap advantages where none were supposed to exist, or where, if they were suspected, they were undervalued or unavailable, or simply neglected.

Polytechnic Review.

Staining Floors.

The London *Furniture Gazette* commends the following method of staining floors in oak or walnut colors: Put 1 oz. Vandyke brown in oil, 3 ozs. pearlash, and 2 drms. dragon's blood, into an earthenware pan or large pitcher; pour on the mixture 1 quart of boiling water; stir with a piece of wood. The stain may be used hot or cold. The boards should be smoothed with a plane and glass-papered; fill up the cracks with plaster of Paris; take a stiff brush, dip in the stain, and rub this in well; the brush should not be rubbed across the boards, but lengthwise. Only a small piece should be done at a time. By rubbing in one place more than another an appearance of oak or walnut is more apparent; when quite dry the boards should be sized with glue size, made by boiling glue in water, and brushing it in the boards hot. When this is dry the boards should be papered smooth and varnished with brown hard varnish or oak varnish; the brown hard varnish will wear better and dry quicker; it should be thinned with a little French polish, and laid on the boards with a smooth brush.